

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
8 July 2004 (08.07.2004)

PCT

(10) International Publication Number  
**WO 2004/056487 A1**

(51) International Patent Classification<sup>7</sup>: **B05B 7/04**,  
7/06, 15/02, 7/12

(21) International Application Number:  
PCT/DK2003/000932

(22) International Filing Date:  
22 December 2003 (22.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
PA 2002 01987 20 December 2002 (20.12.2002) DK

(71) Applicant (for all designated States except US): **LIFECY-  
CLE PHARMA A/S** [DK/DK]; Kogle Alle 4, DK-2970  
Hørsholm (DK).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HOLM, Per**

[DK/DK]; Grøndals Parkvej 54, DK-2720 Vanløse (DK).  
**NIELSEN, Elo** [DK/DK]; Ballegården, Mølleskovvej  
135, Allendelille, DK-4370 St. Merløse (DK).

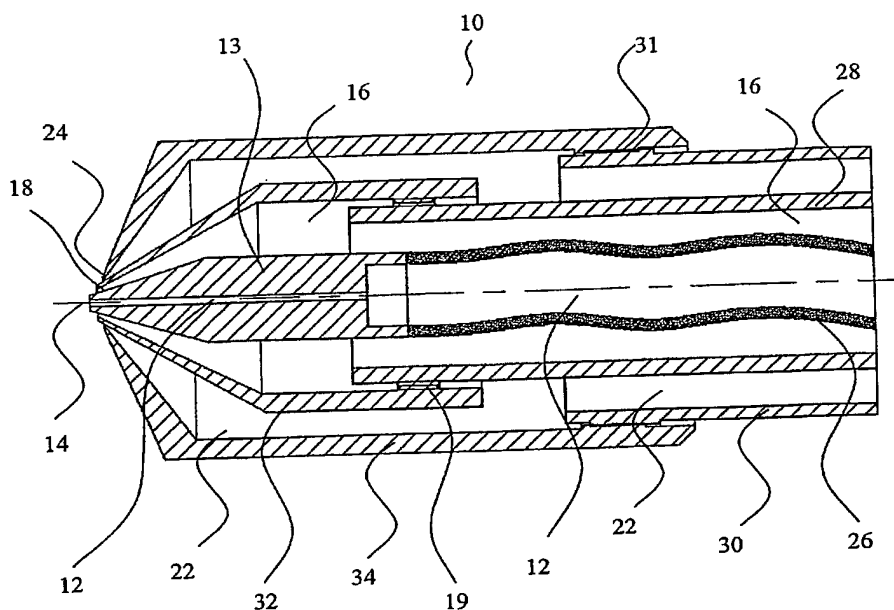
(74) Agent: **ALBIHNS A/S**; H.C. Andersens Boulevard 49,  
DK-1553 Copenhagen V (DK).

(81) Designated States (*national*): AE, AG, AL, AM, AT (util-  
ity model), AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,  
CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE  
(utility model), DE, DK (utility model), DK, DM, DZ, EC,  
EE (utility model), EE, EG, ES, FI (utility model), FI, GB,  
GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,  
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,  
MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL,  
PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL,  
SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN,  
YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,

[Continued on next page]

(54) Title: A SELF-CLEANING SPRAY NOZZLE



(57) Abstract: The present invention relates to a self-cleaning spray nozzle and in particular to a self-cleaning spray nozzle for use in an apparatus for the preparation of a particulate material by a controlled agglomeration method, i.e. a method for controlled growth of particle size. The apparatus is especially suitable for use in the preparation of pharmaceutical compositions containing a therapeutically and/or prophylactically active substance which has a relatively low aqueous solubility and/or which is subject to chemical decomposition.